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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,225	04/07/2006	Tadashi Ogasawara	12054-0056	5765

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EXAMINER	
MCGUTHRY BANKS, TIMA MICHELE	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
02/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,225	OGASAWARA ET AL.	
	Examiner	Art Unit	
	TIMA M. MCGUTHRY-BANKS	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,8,9,11-16,18 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,8,9,11-15,18 and 23* is/are rejected.

7)☒ Claim(s) *16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1, 8, 9, 11, 15, 16 and 18 are currently amended, Claims 2, 12-14 and 23 are as originally filed and Claims 3-7, 10, 17, 19-22 and 24 are cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 December 2008 has been entered.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In *re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 8 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 11/992,162. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims as presented do not claim wherein the molten salt increased in Ca concentration through the use of a principal electrolyzer in said electrolysis step is introduced into a regulating cell having a Ca supply source as in Claim 1 of Application No. '162. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the claims of Application No. '192 read on the instant claims, since the claims of Application No. '192 encompass the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1, 8 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 13 of copending Application No. 11/991,072. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims as presented do not claim increasing the Ca concentration. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the claims of Application No. '072 read on the instant claims, since the claims of Application No. '192 encompass the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1, 8 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/589,879. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims do not claim generating Ca on a cathode electrode. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the claims of Application No. '879 read on the instant claims, since the claims of Application No. '879 encompass the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1, 8, 9, 11, 14, 18 and 23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 11 and 12 of copending Application No. 10/589,949. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims as presented do not claim generating Ca on a cathode electrode side by the electrolysis as in Claims 1-4, 6, 11 and 12, the reactor cell configuration as in Claim 1, the molten salt comprising KCl, LiCl or CaF_2 as in Claim 6, or the size of the Ti or Ti alloys as in Claim 12. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the claims of Application No. '949 read on the instant claims, since the claims of Application No. '949 encompass the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1, 8, 9, 11 and 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 10, 17, 19 and 21 of copending Application No. 10/575,224. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims as presented do not claim an alloy electrode made of a molten Ca alloy that employed for a cathode as claimed. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the claims of Application No. '224 read on the instant claims, since the claims of Application No. '224 encompass the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1, 2, 8, 11, 12, 13, 15, 18 and 23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4-7, and 11-13 of copending Application No. 10/590,863. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims as presented do not claim a ca generation step by Na introduction, in which Ca is generated by introducing Na into molten salt containing $CaCl_2$ as claimed. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the claims of Application No. '863 read on the instant claims, since the claims of Application No. '863 encompass the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

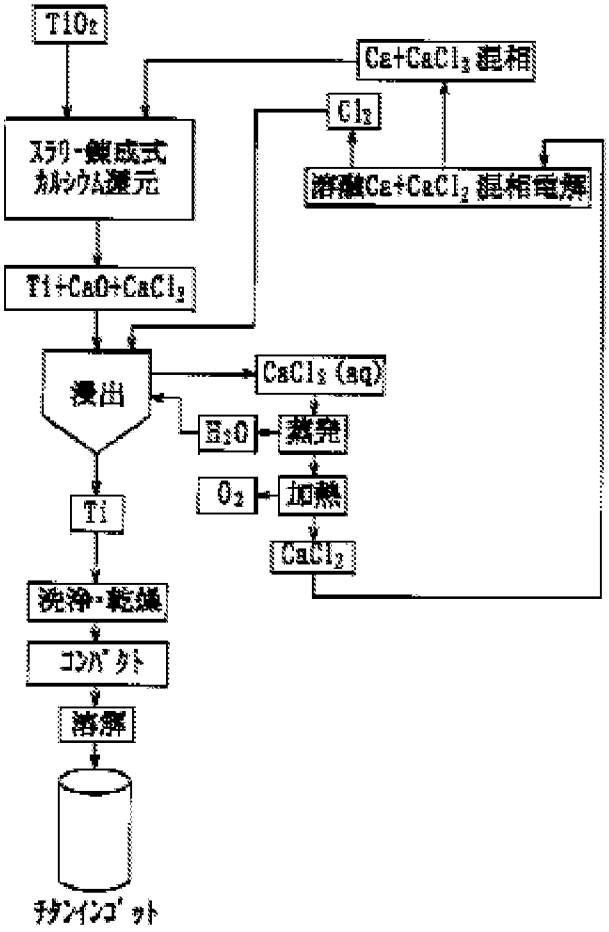
The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose or suggest holding the increased Ca concentration molten salt on the molten salt in the reactor vessel such that Ca is supplied from said increased Ca concentration molten salt to said molten salt located beneath the increased Ca concentration molten salt.

Response to Arguments

Applicant's arguments with respect to the rejection of the claims over Winter (US 2,890,112) have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

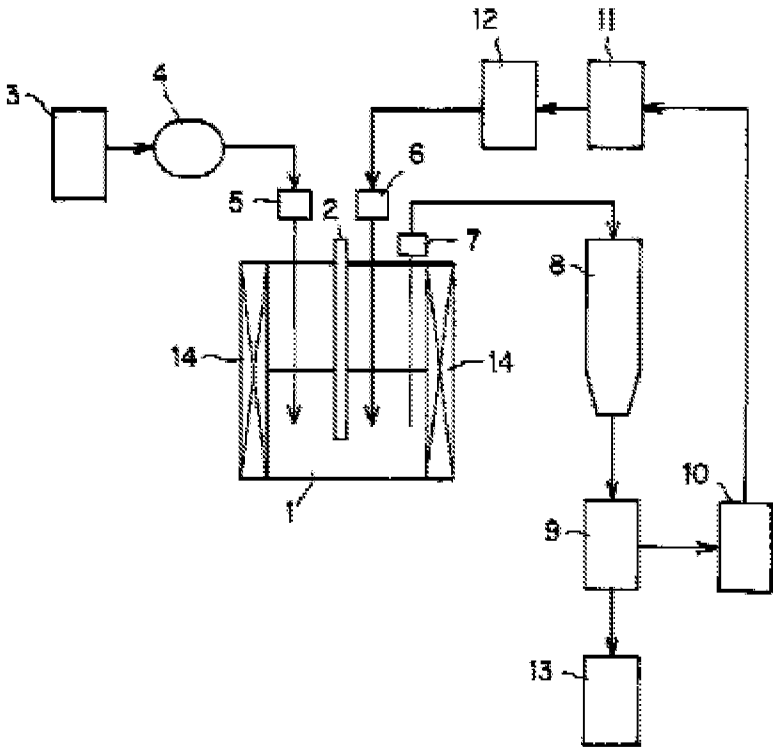
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2002-129250 teaches a method for forming metallic Ti by reacting TiO_2 with Ca and $CaCl_2$ as shown below in the figure:



JP '350 does not disclose or suggest returning both $CaCl_2$ and Ca back to the reactor vessel.

JP 2001-192748 teaches manufacturing Ti metal by reducing $TiCl_4$ with a reducer metal, e.g. Mg, as shown below in the figure:



However, $MgCl_2$ is electrolyzed in 10. Only the reducing metal is returned to the reactor vessel. JP '748 does not disclose or suggest returning $MgCl_2$ along with Mg.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

/T. M. M./
Examiner, Art Unit 1793
13 February 2009